

REMARKS

Applicant's undersigned attorney thanks the Examiner for the comments. Applicant respectfully requests reconsideration of this Patent Application, particularly in view of the above Amendment and the following remarks. No additional claim fee is due for this Amendment because the number of independent claims remains unchanged and the total number of claims is not more than originally filed.

Amendment to the Claims

Applicant amended Claim 1 to recite vertically stacked planar coils, vertically stacked magnetic elements, and a magnetic core extending perpendicular to each of the planar coils. Support for this Amendment can be found, for example, in Fig. 1 and at page 8, last paragraph.

Claims 2-5, 8, 11, and 12 have been amended for clarity and consistency.

Claims 13-27 have been canceled. Claims 28-42 have been added. Claims 28 and 30-41 read on the elected invention, and Claims 28, 30-35, and 39-41 read on the elected species. Support for new Claims 28-42 can be found throughout the original disclosure.

No new matter has been added by this Amendment.

Claim Rejections - 35 U.S.C. §103

The rejection of Claims 1-4, 7, and 10-12 under 35 U.S.C. §103(a) as being obvious over Imam, US 2002/0097128, in view of Abel, U.S. Patent No. 6,198,374, is respectfully traversed.

Applicant previously argued that the prior art references do not teach Applicant's stacked, and thus vertical, inductor and magnetic core. The Office Action states at page 3 that Applicant had not previously claimed a vertical inductor. To expedite prosecution, Applicant has amended Claim 1 to include the limitation "vertically stacked." Applicant's prior remarks are repeated hereafter for convenience.

The Office Action states at page 2 that Imam discloses an IC chip (FIG. 6) including an inductor coil 600 and an electrical and magnetic core 640. The Office Action further states that "Imam discloses the instant claimed invention except for the specific configuration of the inductor coil." Abel is relied upon for teaching a particular inductor coil configuration.

Applicant respectfully disagrees with this rejection. The combination of Imam and Abel does not provide or suggest Applicant's claimed invention. Neither would there have been any reason to combine the teachings of these references.

Imam teaches a completely different, and simpler, structure than the inductor of Applicant's claimed invention. Imam teaches a multiple winding inductive element with a core and having a horizontal structure, which is generally a classic "solenoid" inductor that is laid flat. FIG. 6 of Imam is not a planar spiral inductor as in Applicant's claimed invention. The horizontal inductive element of Imam is fabricated by "simple" metal bars laid layer-by-layer for both the winding and the core (See the description of FIGS. 1-4). Applicant's recited structure is a spiral inductor that is vertical, and includes planar coils and a vertical magnetic core. Such spiral coils and cores are generally formed or assembled simultaneously in IC fabrication. The resulting, and recited, structure is a very different structure from, and more difficult to manufacture than, the inductive element of Imam.

One skilled in the art would not have considered Abel relevant to Imam or the present invention. Abel does not teach an IC inductor, but a group of low-permeability thin magnetic layers screen-printed or pasted on each winding. Abel

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places a group of low-permeability, thin magnetic films on top/bottom and/or between each winding spiral layers. This is completely different from Applicant's claimed IC inductor.

Abel and Imam, individually or in combination, provide no suggestion or motivation to combine the teachings thereof. Imam is related to a different type of inductive element from Applicant's vertical inductor, while Abel is not even an inductor. One skilled in the art would not have considered Abel and Imam analogous art for combining.

Furthermore, neither reference teaches a magnetic core within, and extending perpendicular to, each of the planar coils and comprising a plurality of stacked and aligned magnetic elements. In Imam, the magnetic core is a single piece.

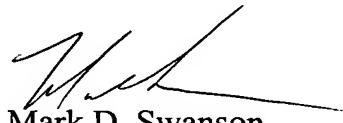
Favorable reconsideration and withdrawal of this rejection are respectfully requested.

Conclusion

Applicant intends to be fully responsive to the outstanding Office Action. If the Examiner detects any issue which the Examiner believes Applicant has not resolved in this response, Applicant's undersigned attorney requests a telephone interview with the Examiner.

Applicant sincerely believes that this Patent Application is now in condition for allowance and, thus, respectfully requests early allowance.

Respectfully submitted,



Mark D. Swanson
Registration No. 48,498

Pauley Petersen & Erickson
2800 West Higgins Road, Suite 365
Hoffman Estates, Illinois 60195
(847) 490-1400 FAX (847) 490-1403